

Residential Wastewater- Keeping it out of Clam Flats

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DEP vs. DEH

The DEP regulates all discharges to the waters of the state, both surface and groundwater.

The Division of Environmental Health, MECDC, DHHS regulates the disposal of domestic wastewater to subsurface disposal fields to protect public health.

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Many OBD's were originally installed or officially licensed in the 1970's and 1980's.

Why?

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Maine has had external plumbing code rules since at least 1948.

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In the early 1970's the Maine Division of Health Engineering began looking to significantly beef up and change its subsurface wastewater disposal Rules.

On July 1, 1974 a substantially new set of rules came into existence.

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Key Changes included:

- * Elimination of the old Perc test and replaced it with a soil profile examination.
- * Eliminated use of metal septic tanks in favor of concrete tanks.
- * Eliminated use of old v-plank trenches in favor of stone beds or concrete chambers.

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Soil Factors included:

- * Texture
- * Color
- * Structure
- * Mottling (now referred to as redoximorphic features).
- * bedrock

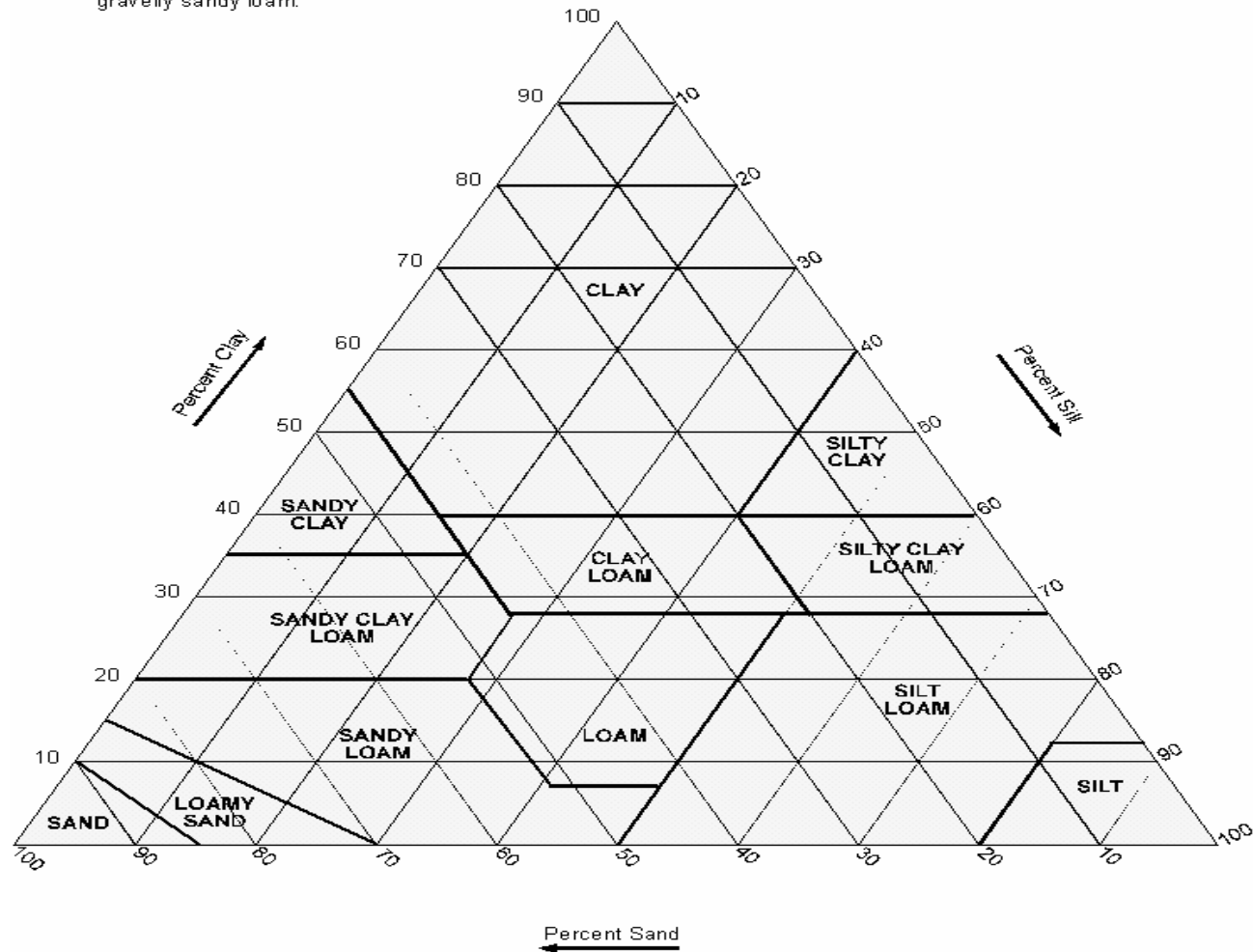
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Texture

Soil texture must be determined using soil material less than 2.0 mm. in size. If approximately 20% or more of the soil material is larger than 2.0 mm., the texture term includes a modifier. Example: gravelly sandy loam.

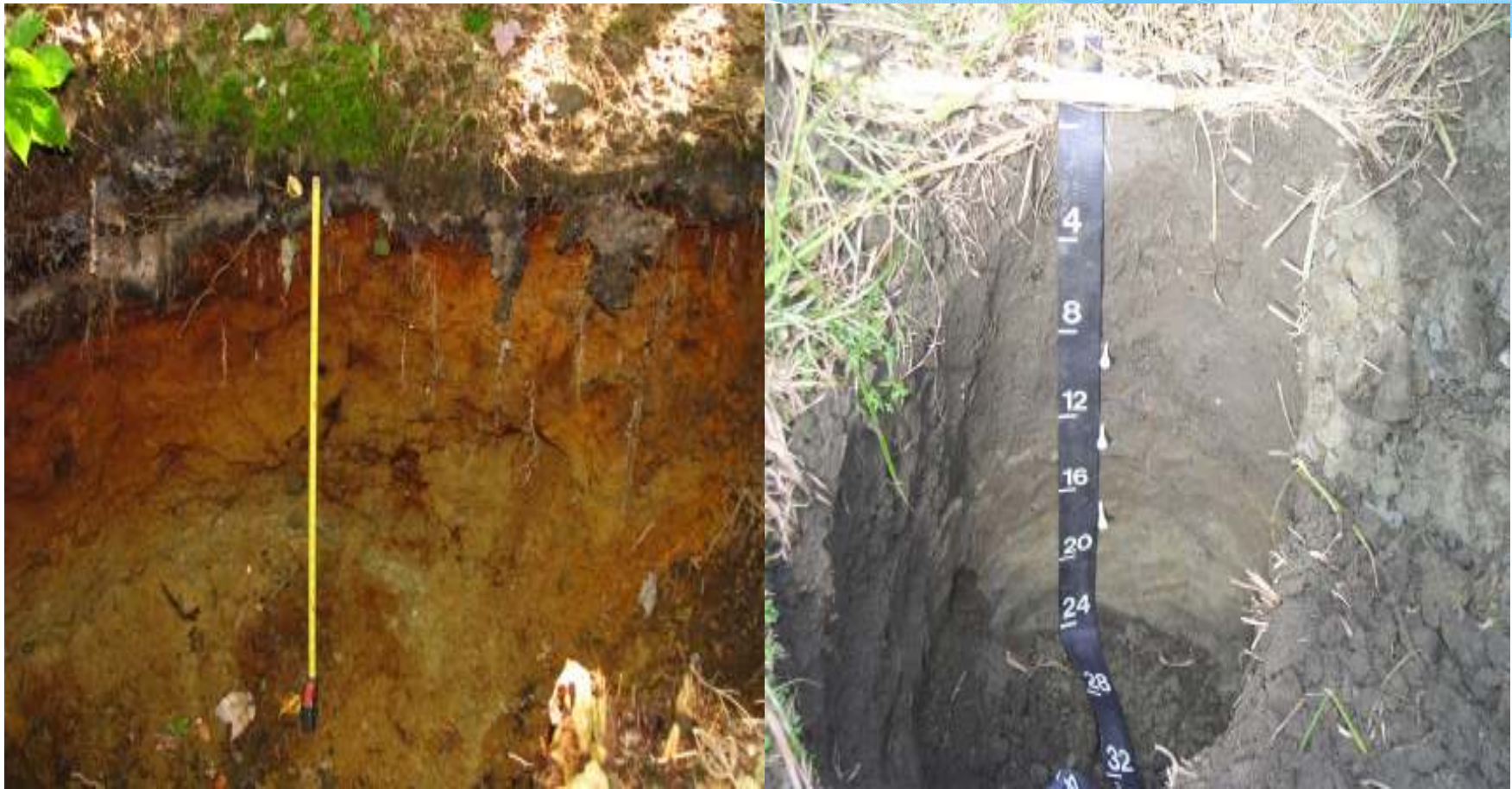
Example of use:

A soil material with 10% clay, 20% silt, and 70% sand is a sandy loam.







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Color



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Structure

PLATY	PRISM-LIKE	BLOCK-LIKE	SPHEROIDAL
			
a. PLATY	a. PRISMATIC	a. ANGULAR BLOCKY	a. GRANULAR
Less Than 1 mm to Greater than 10 mm Vertically	Less Than 10 mm to Greater Than 100 mm Horizontally	Less Than 5 mm to Greater Than 50 mm	Less Than 1 mm to Greater Than 10 mm

R Ke

Structure:

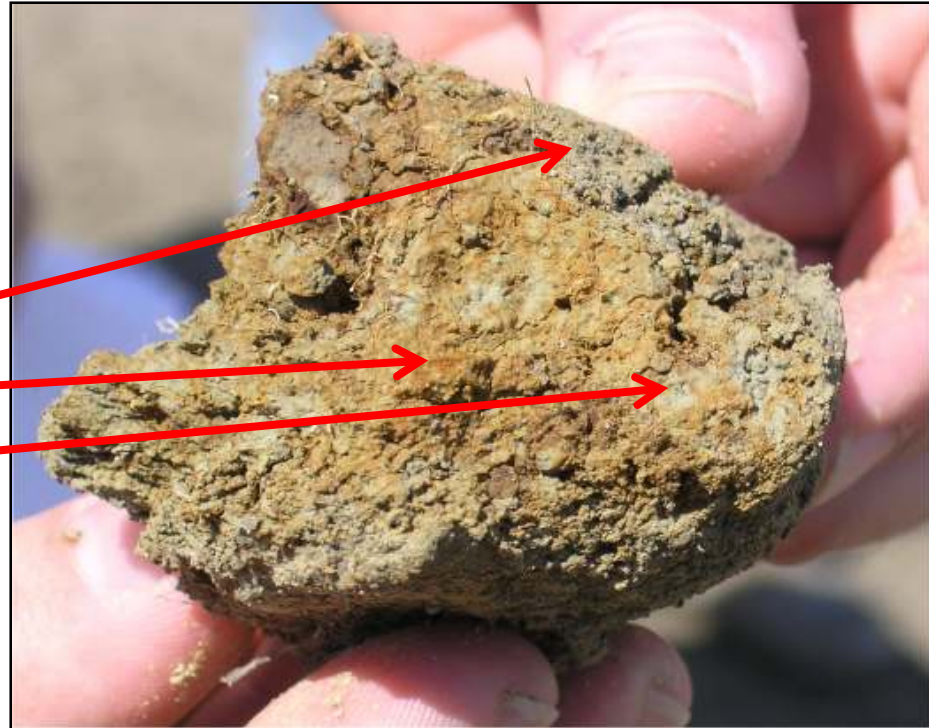
Note the
prism face.



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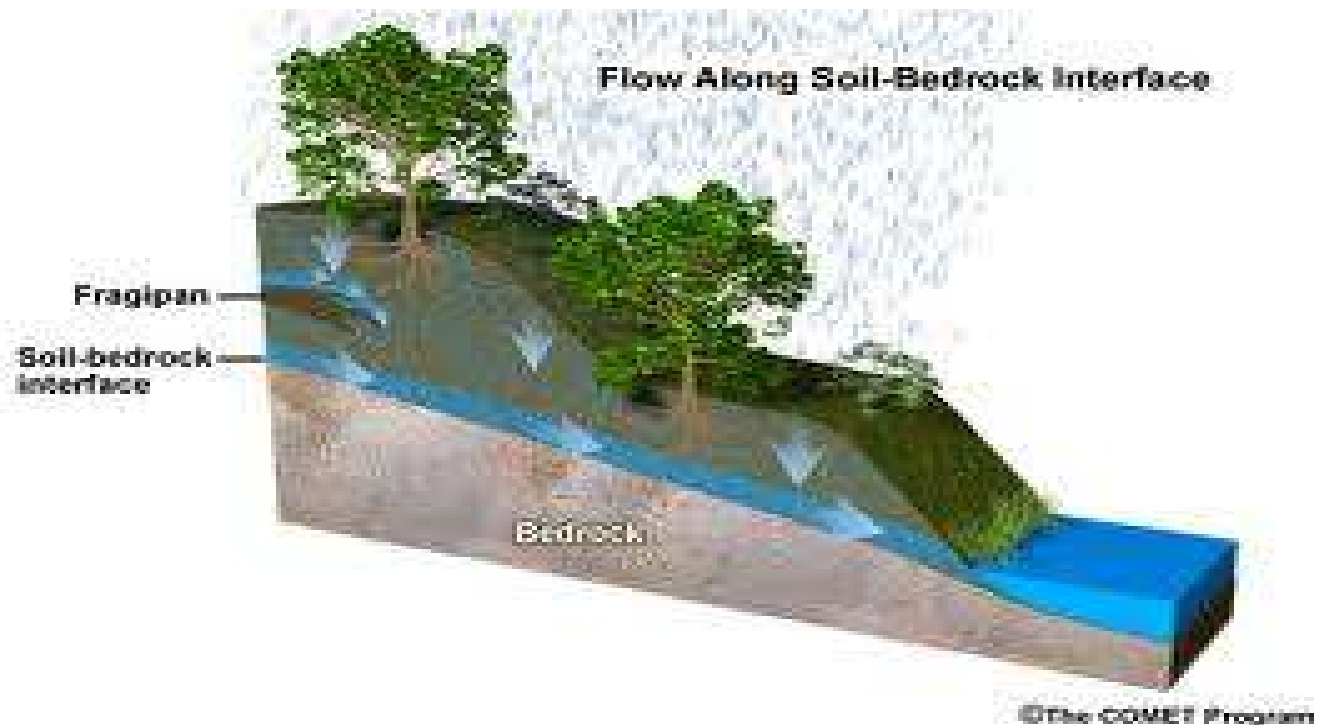
Example of a
redoximorphic
feature.

Matrix color
Oxidized iron
Reduced iron



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Bedrock:
15 inches
of soil
above
bedrock.



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Bedrock



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A key feature of these 1974 rules was that there needed to be at least 15 inches of soil above bedrock and drainage mottles.

Many sites along the coast just didn't meet this criteria.

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While it was possible to get a variance to this rule, for new systems that was very difficult.

The rules included a point scale that had to be met in order for a variance to be issued.

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Points were awarded based on:

- * Soil type
- * Depth to groundwater (mottling)
- * Lot size
- * Position on landscape.
- * Waterbody Setback
- * Water Supply
- * Type of Development
- * Extra points for enlarging the system.

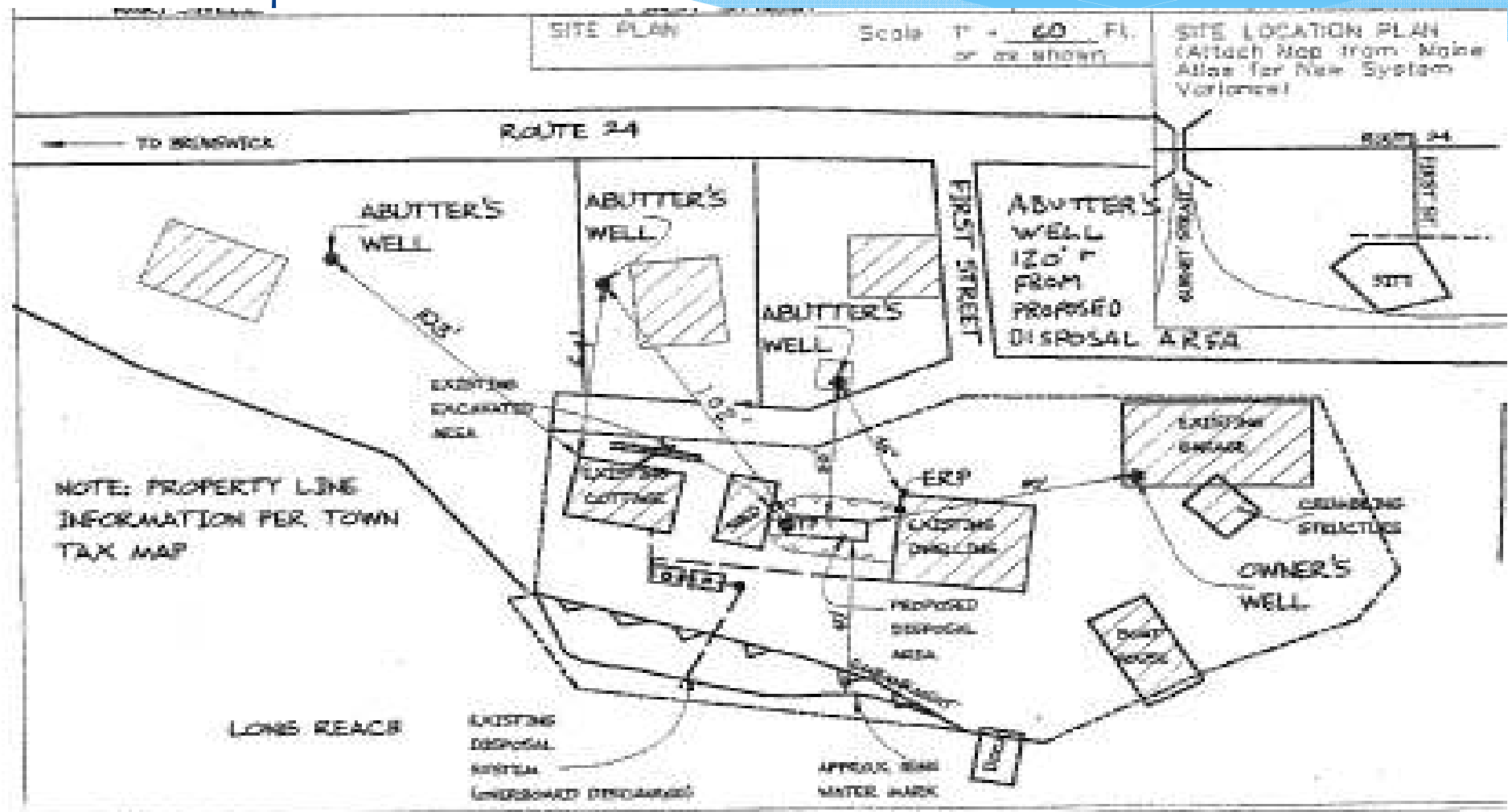
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To get a variance you needed at least 50 points and preferably 75.

Sadly, most shorefront lots never got close to 50 points

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Example:



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Soils:

A marine
clay could
get you 10
points



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- * Soils: 5B: You'd get 5 points
- * Drainage: 14+ inches to groundwater got you 20 points.
- * Property size: A half acre got you no points
(and some versions of the rules subtracted 10 points.)
- * Position on the landscape: Level site would get you no points.
- * Waterbody Setback: Less than 100 feet would not be permitted.

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- * Water supply: 3 points for a drilled well.
- * Type of Development: No points for a single family residence.
- * You could add up to 10 points each for expanding the design flow or increasing the separation distance to groundwater or bedrock.

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That's 28 points with at most another 20 for special design factors.

Plus a Not permitted on waterbody setback.

Sorry, you lose!

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Thus, many owners turned to licensed overboard discharges as the solution or just left their old system in place.

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Fast forward to today.

Now, for multiple reasons, we want those
OBD's to go away.

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What are the options?

- * Public sewers.
Not likely given their cost.
- * “Community” or clustered systems.
Might be possible in some areas but often there isn’t a location available or an organization in place to drive its development.
- * Individual On Site systems.

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?????

But wait, didn't you just say many of these OBD systems were put in because the soils weren't suitable for subsurface wastewater disposal?

?????

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Section 8.A 1 of the current Subsurface Wastewater Disposal Rules states:

General: A replacement system is a disposal system designed to replace an overboard discharge, a malfunctioning system, or any legally existing, nonconforming disposal system, without any increase in water usage, except as allowed in Section 9.

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Further, Section 8.A.2 states:

Existing overboard discharge: Any structure(s) licensed to discharge treated or untreated wastewater or any property to which a valid license has been issued to discharge wastewater to the waters of the state may install a disposal system using replacement system criteria

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Current Criteria for Replacement Systems

- * At least 9 inches to groundwater (not 15)
- * Forget the points.
- * LPI Authority for many reductions in setbacks.
 - * If these can't be met, can still apply for a state variance.

TABLE 8A

Setback Distances for Replacement System, Limits of LPI Authority

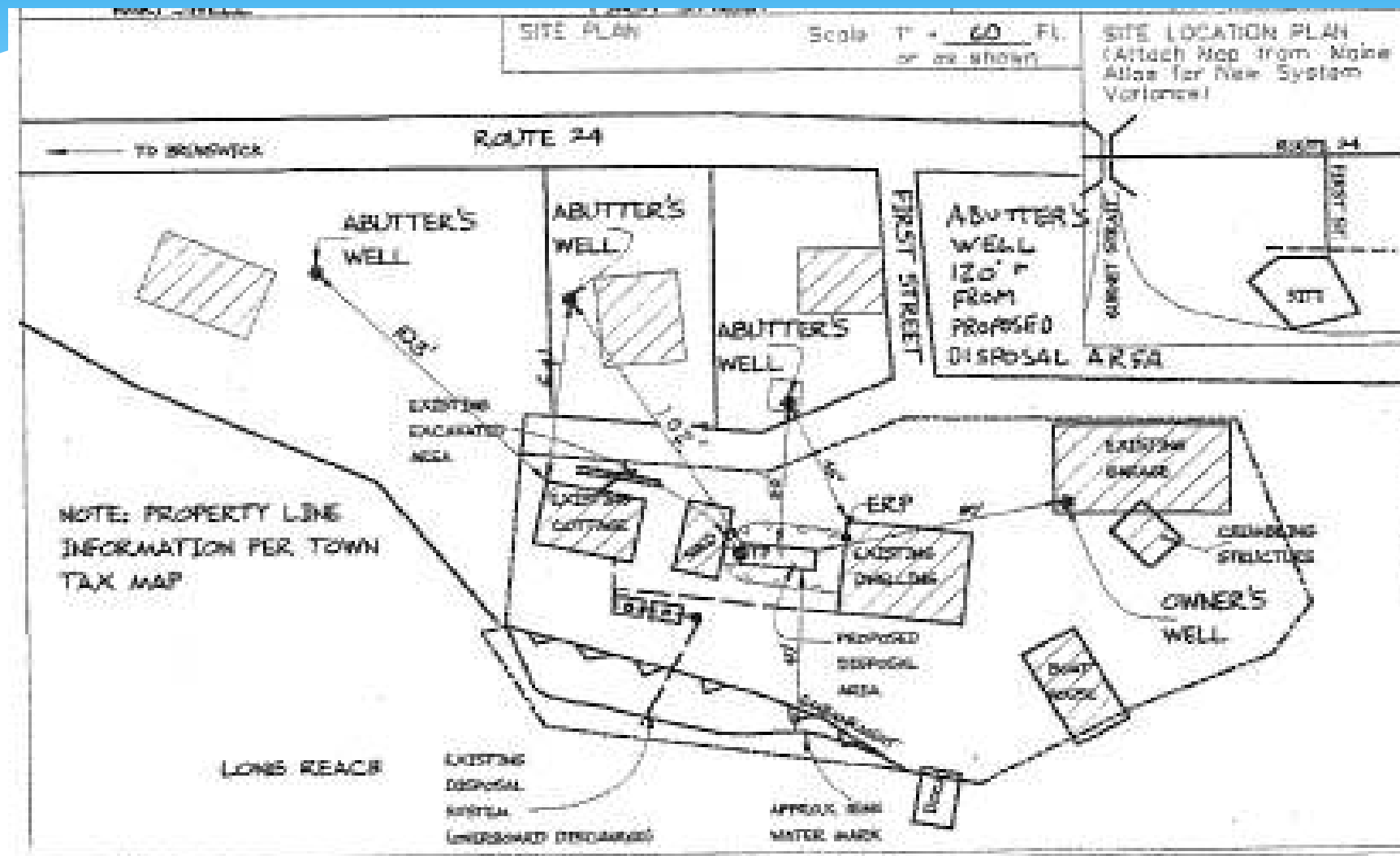
Site features vs. disposal system components of various sizes	Disposal Fields (total design flow)			Septic Tanks and Holding Tanks (total design flow)		
	Less than 1,000 gpd	1,000 to 2,000 gpd	Over 2,000 gpd	Less than 1,000 gpd	1,000 to 2,000 gpd	Over 2,000 gpd
Wells with water usage of 2,000 or more gpd or public water supply wells	300 feet	300 feet	300 feet	150 feet	150 feet	150 feet
Potable supply well	100 down to 60 feet	200 down to 100 feet	300 down to 150 feet	100 down to 25 feet	100 down to 50 feet	100 down to 50 feet
Water supply line	10 feet	20 feet	25 feet	10 feet	10 feet	10 feet
Water course, major	100 down to 50 feet	200 down to 120 feet	300 down to 180 feet	100 down to 25 feet [a]	100 down to 50 feet	100 down to 50 feet
Water course, minor	50 down to 20 feet	100 down to 50 feet	150 down to 75 feet	50 down to 25 feet	50 down to 25 feet	50 down to 25 feet
Drainage ditches	25 down to 12 feet	50 down to 25 feet	75 down to 35 feet	25 down to 12 feet	25 down to 12 feet	25 down to 12 feet
Edge of fill extension-- Coastal wetlands, special freshwater wetlands, great ponds, rivers, streams	20 feet	25 feet	25 feet	25 feet	25 feet	25 feet
Slopes greater than 3:1	10 feet	18 feet	25 feet	N/A	N/A	N/A
No full basement [e.g. slab]	15 down to 7 feet	30 down to 15 feet	40 down to 20 feet	8 down to 5 feet	14 down to 7 feet	20 down to 10 feet
Full basement [below grade foundation, frost wall, columns]	20 down to 10 feet	30 down to 15 feet	40 down to 20 feet	8 down to 5 feet	14 down to 7 feet	20 down to 10 feet
Property lines	10 down to 5 feet [b]	18 down to 9 feet [b]	20 ft down to 10 ft [b]	10 down to 4 feet [b]	15 down to 7 feet [b]	20 down to 10 feet [b]
Burial sites or graveyards boundaries, measured from the toe of the fill extension	25 feet	25 feet	25 feet	25 feet	25 feet	25 feet
Stormwater infiltration systems	100 down to 60 feet	200 down to 120 feet	300 down to 180 feet	100 down to 50 feet	100 down to 50 feet	100 down to 50 feet
Wetponds, retention ponds, and detention basins (excavated below grade); Soil filters, underdrained swales, underdrained outlets, and similar structures	50 down to 25 feet	100 down to 50 feet	150 down to 75 feet	50 down to 25 feet	50 down to 25 feet	50 down to 25 feet
Stormwater detention basins (basin bottom at, or above, predevelopment grade)	25 down to 12 feet	50 down to 25 feet	75 down to 35 feet	25 down to 12 feet	25 down to 12 feet	25 down to 12 feet

Notes:

[a] This distance may be reduced to 25 feet, if the septic or holding tank is tested in the LPI's presence and shown to be watertight or of monolithic construction.

[b] Additional setbacks may be needed to prevent fill material extensions from encroaching onto abutting property.

[c] All ground disturbance or clearing of woody vegetation necessary for the installation of a subsurface wastewater disposal system that occurs within 100 feet of the normal high water mark of a major water body / course must comply with these Rules pertaining to work adjacent to or within wetlands and water bodies (see Section 11(M)).



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Do these new rules and process mean that all
OBD's can go away?

Not hardly.

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Issues:

- * Too small lots.
- * Insufficient soils.
- * Severe Setback Limitations

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Or go to our website at:

www.mainepublichealth.gov/septic-systems